A.F. OUTPUT PENTODE

Beam pentode intended for use as A.F. power amplifier.

QUICK REFERENCE DATA			
Anode current	I_a	110	mA
Transconductance	S	23	mA/V
Amplification factor	$\mu_{g_2 g_1}$	13	
Output power (class AB)	W_o	40	W

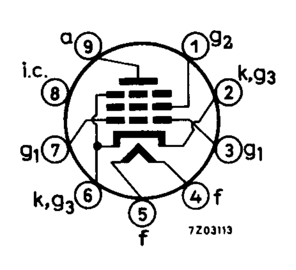
HEATING: Indirect by A.C. or D.C.; parallel supply

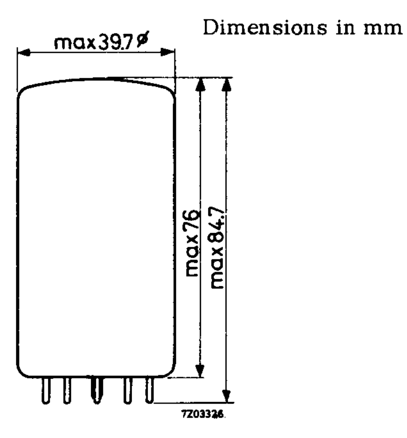
Heater voltage	V_f	6.3	V
Heater current	I_f	1.05	A

DIMENSIONS AND CONNECTIONS

Dimensions in mm

Base: Magnoval





CAPACITANCES

Anode to all except grid No. 1	$C_{a(g_1)}$	13.5	pF
Grid No. 1 to all except anode	$C_{g_1(a)}$	22.5	pF
Anode to grid No. 1	C_{ag_1}	1.7	pF
Grid No. 1 to heater	C_{g_1f}	0.325	pF

TYPICAL CHARACTERISTICS

Anode voltage	V_a	250	V
Grid No.2 voltage	V_{g_2}	250	V
Grid No.1 voltage	V_{g_1}	14.0	V
Anode current	I_a	110	mA
Grid No.2 current	I_{g_2}	7.0	mA
Transconductance	S	23	mA/V
Amplification factor	$\mu_{g_2g_1}$	13	
Internal resistance	R_i	5.4	kΩ

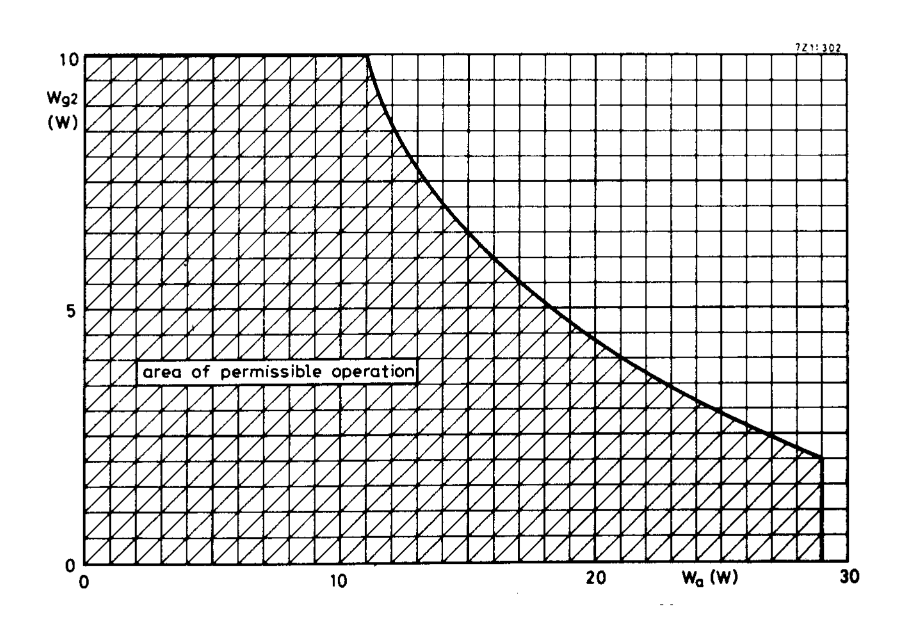
OPERATING CHARACTERISTICS

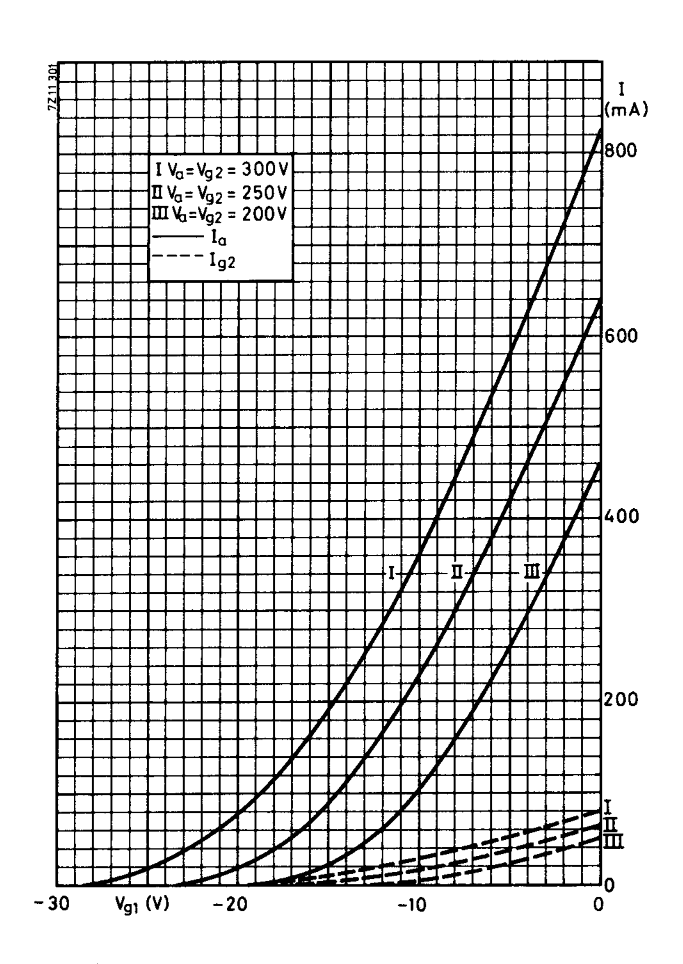
Class AB, two tubes in push-pull

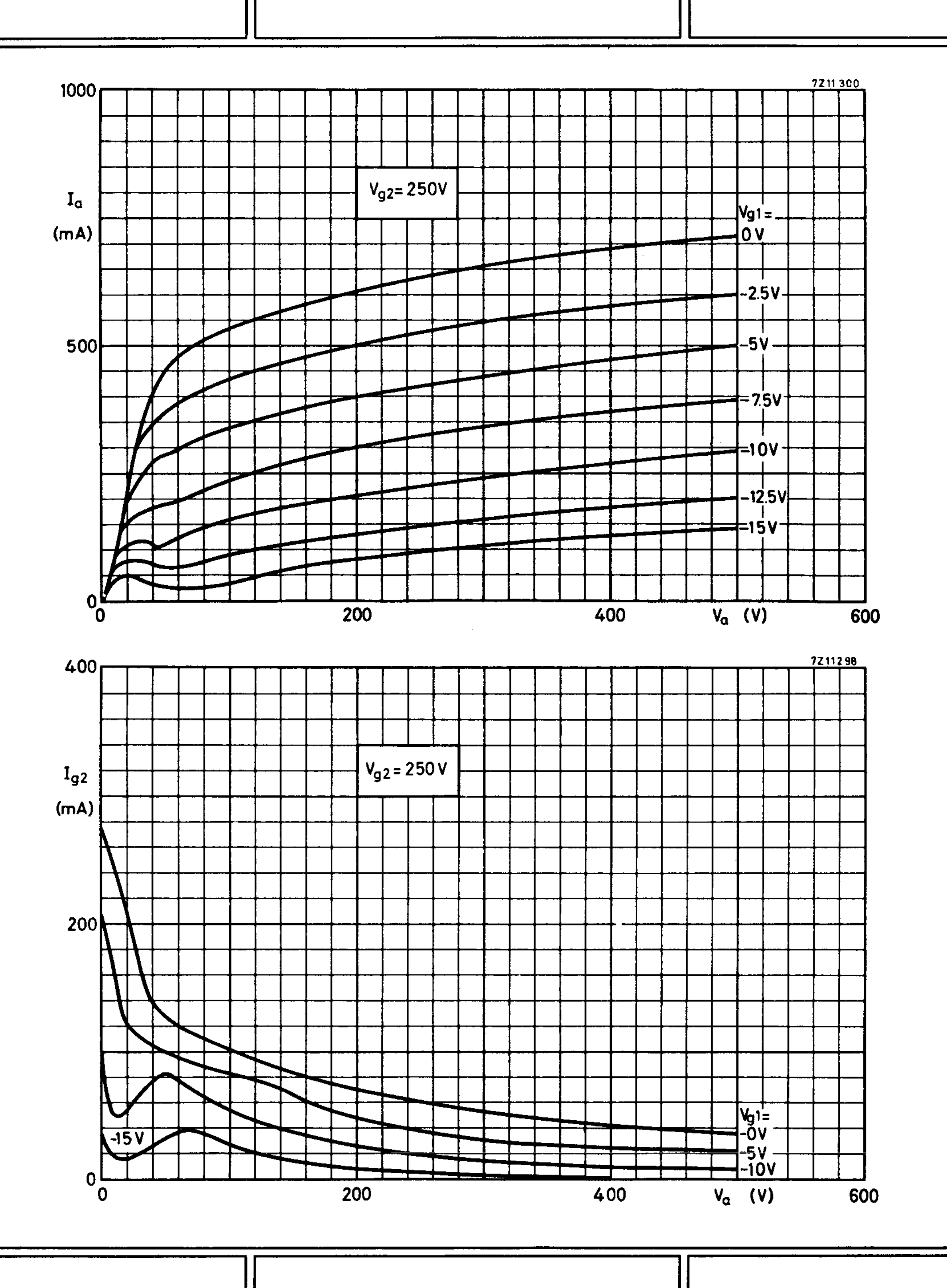
Anode supply voltage	V_{ba}	265		V
Grid No.2 supply voltage	V_{bg_2}	265		V
Common cathode resistor	R_k	56		Ω
Load resistance	$R_{aa\sim}$	2.4		kΩ
Grid No.1 driving voltage	V_i	0	12.2	V_{RMS}
Anode current	I_a	2x115	2x125	mA
Grid No.2 current	I_{g_2}	2x7.5	2x35.0	mA
Output power	W_o	0	40	W
Distortion	d_{tot}	-	5	%

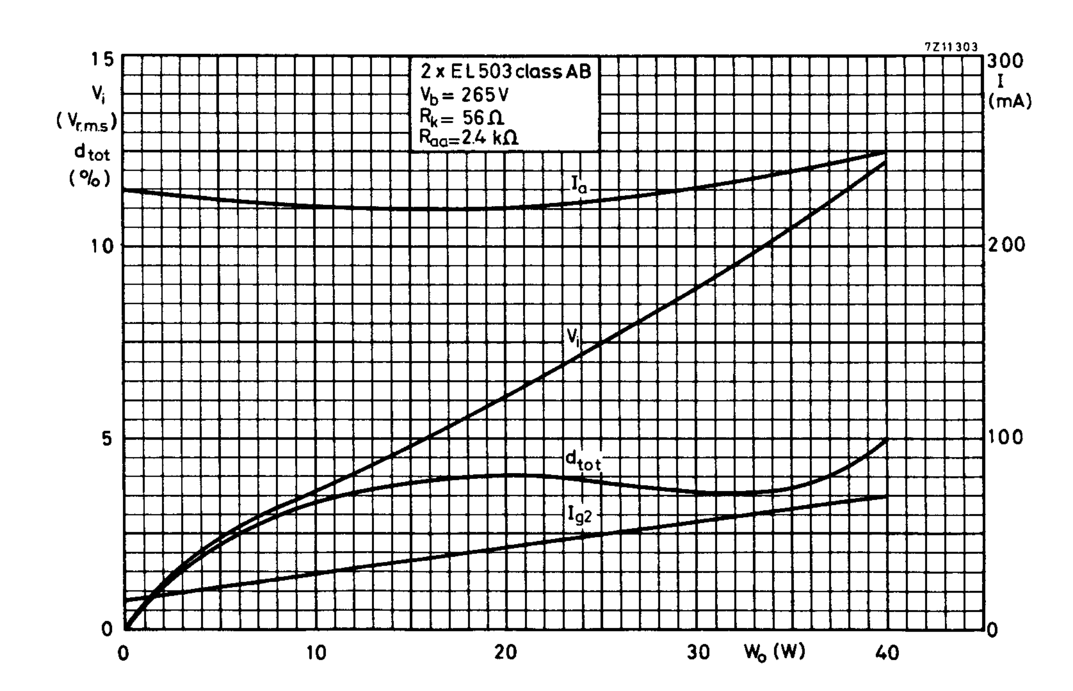
LIMITING VALUES (Design centre rating system)

Anode voltage	V_{a_o}	max.	550	V
	V_a	max.	300	V
Grid No.2 voltage	$V_{g_{2o}}$	max.	550	V
	V_{g_2}	max.	300	V
Anode dissipation	W_a	see below		
Grid No.2 dissipation				
average	W_{g_2}	see below		
peak	$W_{g_{2p}}$	see below		
Cathode current	I_k	max.	200	mA
Grid No.1 resistor, automatic bias	R_{g_1}	max.	0.5	MΩ
Cathode to heater voltage	V_{kf}	max.	100	V




7Z11301
I V$_a$=V$_{g2}$ = 300V
II V$_a$=V$_{g2}$ = 250V
III V$_a$=V$_{g2}$ = 200V
I$_a$
I$_{g2}$
I (mA)
800
600
400
200
0
I
II
III
-30
V$_{g1}$ (V)
-20
-10
0


7Z11 300
1000
500
0
I_a
(mA)
V_{g2} = 250V
V_{g1} =
0 V
-2.5V
-5V
-7.5V
-10V
-12.5V
-15V
0
200
400
V_a (V)
600
7Z11298
400
200
0
I_{g2}
(mA)
V_{g2} = 250 V
V_{g1}=
-0V
-5V
-10V
-15V
0
200
400
V_a (V)
600


7Z11303
2 x EL503 class AB
V_b = 265 V
R_k = 56 Ω
R_{aa} = 2.4 kΩ
V_i ($V_{r.m.s}$)
d_{tot} (%)
I (mA)
I_a
V_i
d_{tot}
I_{g2}
W_o (W)
15
10
5
0
300
200
100
0
0
10
20
30
40



EL503

page	**sheet**	**date**
1	1	1970.08
2	2	1970.08
3	3	1970.08
4	4	1970.08
5	5	1972.01
6	6	1972.01
7	FP	1999.02.20